



Massachusetts  
Department  
of  
ENVIRONMENTAL  
PROTECTION

# fact sheet

## Making Massachusetts Schools Mercury-Free

A provision of the new Massachusetts Mercury Management Act (Chapter 190 of the Acts of 2006, amending M.G.L. Chapter 21H) prohibits schools across the state from purchasing elemental mercury and most mercury-containing devices and materials effective October 1, 2006.

The Department of Environmental Protection (MassDEP) has prepared the following chart to help school officials, administrators, faculty and staff members identify safe alternatives and substitutes for items that contain mercury.

LOCATION	MERCURY-CONTAINING ITEM	NON-MERCURY SUBSTITUTE
Science Rooms	Elemental mercury	None
	Mercury Lab Thermometer	Alcohol and mineral spirits glass bulbs, digital thermometers
	Mercury Barometer	Aneroid and digital
	Mercury Hygrometer	Spirit-filled glass bulb, digital, aneroid
	Mercury Hydrometer	Lead ballast hydrometers are available.
	Mercury Vacuum Gauge	None
	Hg Spectral Tube	16 alternative gases are available
	Mercury Molecular Motion Device	Apparatus for use with overhead projector uses balls on a glass plate
	Mercury Sling Psychrometer	Mineral spirits glass bulb thermometers, some can fit in old frames
	Mercury Compounds: mercury oxide, chloride, sulfate, nitrate, iodide, Zencker's solution, others	None
	Mercury Gas Law Apparatus	A simple Charles' Law apparatus may suffice
	Sphygmomanometer for Biology classrooms	Aneroid and digital
Home Economics Rooms	Mercury Cooking Thermometer (with silver liquid)	Spirit-filled glass bulb, digital
Art Rooms	True Vermillion Paint	Mercury-free vermilion paints (but these may contain other hazardous compounds, e.g., cadmium)
	Cadmium Vermillion Red Paint	Same as above
School Facilities	Fluorescent Lamps	Low-mercury fluorescent lamps (identified by green ends) contain less mercury but should also be recycled when spent
	Mercury Thermostats	Non-mercury sealed switches, programmable and non-programmable electronic thermostats

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LOCATION	MERCURY-CONTAINING ITEM	NON-MERCURY SUBSTITUTE
School Facilities (continued)	Mercury Vapor Lamps, Metal Halide Lamps, High-Pressure Sodium Vapor Lamps	Non-mercury, high-pressure sodium lamps
	Mercury Gauges	Depends on application
	"Silent" light switches (do not make an audible "click" sound when activated, no longer manufactured)	Switches made after 1991
	Mercury Float Control Switches (e.g., used on sump pumps)	Non-mercury alternatives are available
	Flow Meters with Mercury Switches	For most uses, suppliers will have a non-mercury model
	Other equipment with mercury switches: e.g., flame sensors, fire alarms, safety valves	Many alternatives, including hard-contact switches, solid-state switches, electro-optical switches, inductive sensors, capacitive sensors, photoelectric sensors, and ultrasonic sensors.
	Fungicides and Pesticides (produced before 1991)	Preparations made since 1991 do not contain mercury
	Mercury Thermometers in freezers, refrigerators, incubators	Spirit-filled thermometers
	Batteries (mercury oxide or mercury zinc) manufactured before 1996	Alkaline batteries made since 1996 do not contain mercury
Medical Office	Button cell batteries	None
	Mercury Fever Thermometer	Digital, glass bulb (gallium, indium, tin), or tympanic thermometers
	Sphygmomanometer (blood pressure measuring device) with silver liquid, found in hand-held, mobile, or wall units	Aneroid or digital units